May 3, 1966 C. A. PARKER 3,249,353

TAG ALIGNER MEANS

Filed Aug. 29, 1963 3 Sheets-Sheet 1

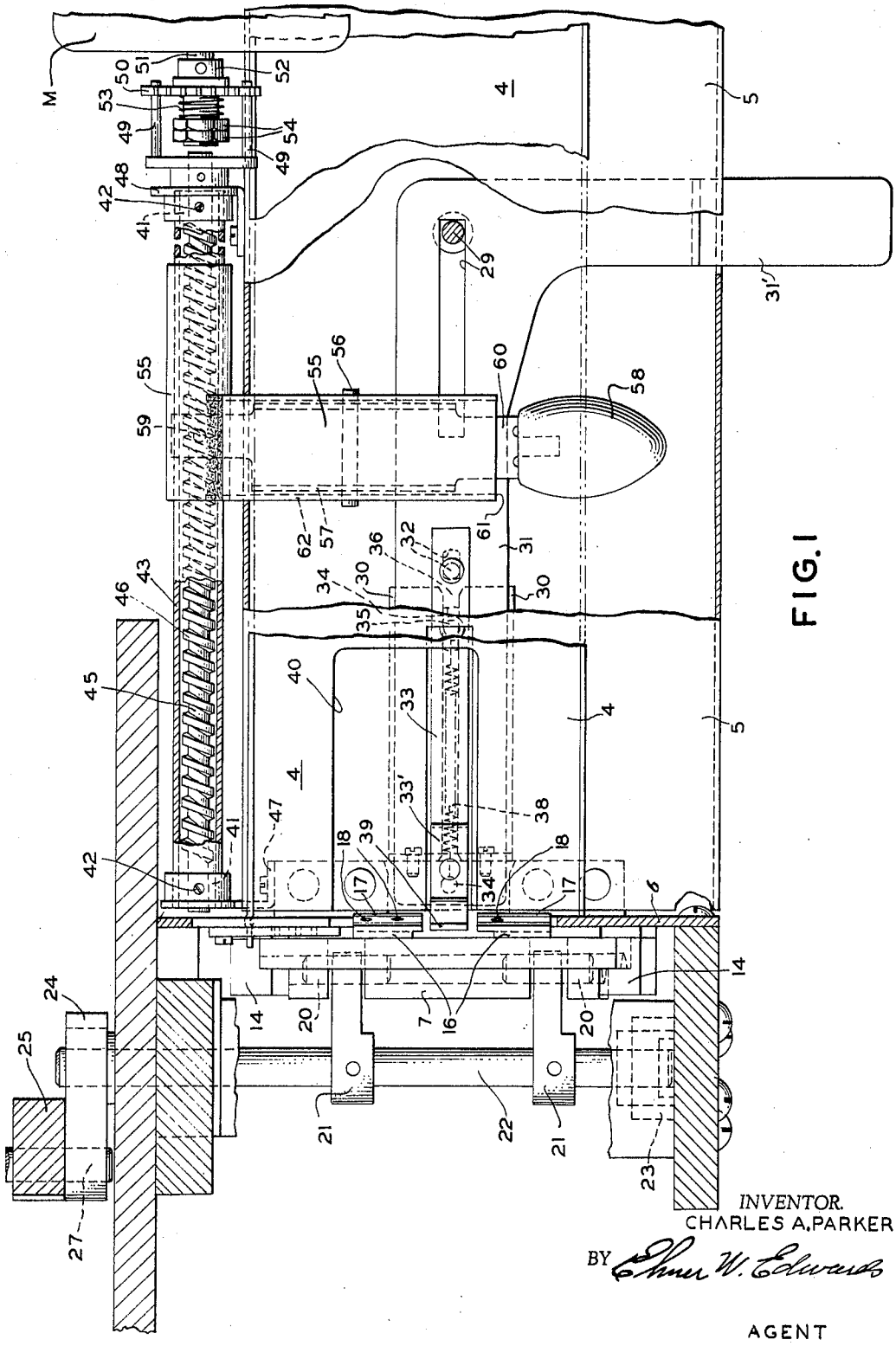


FIG. 1

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FIG. 2

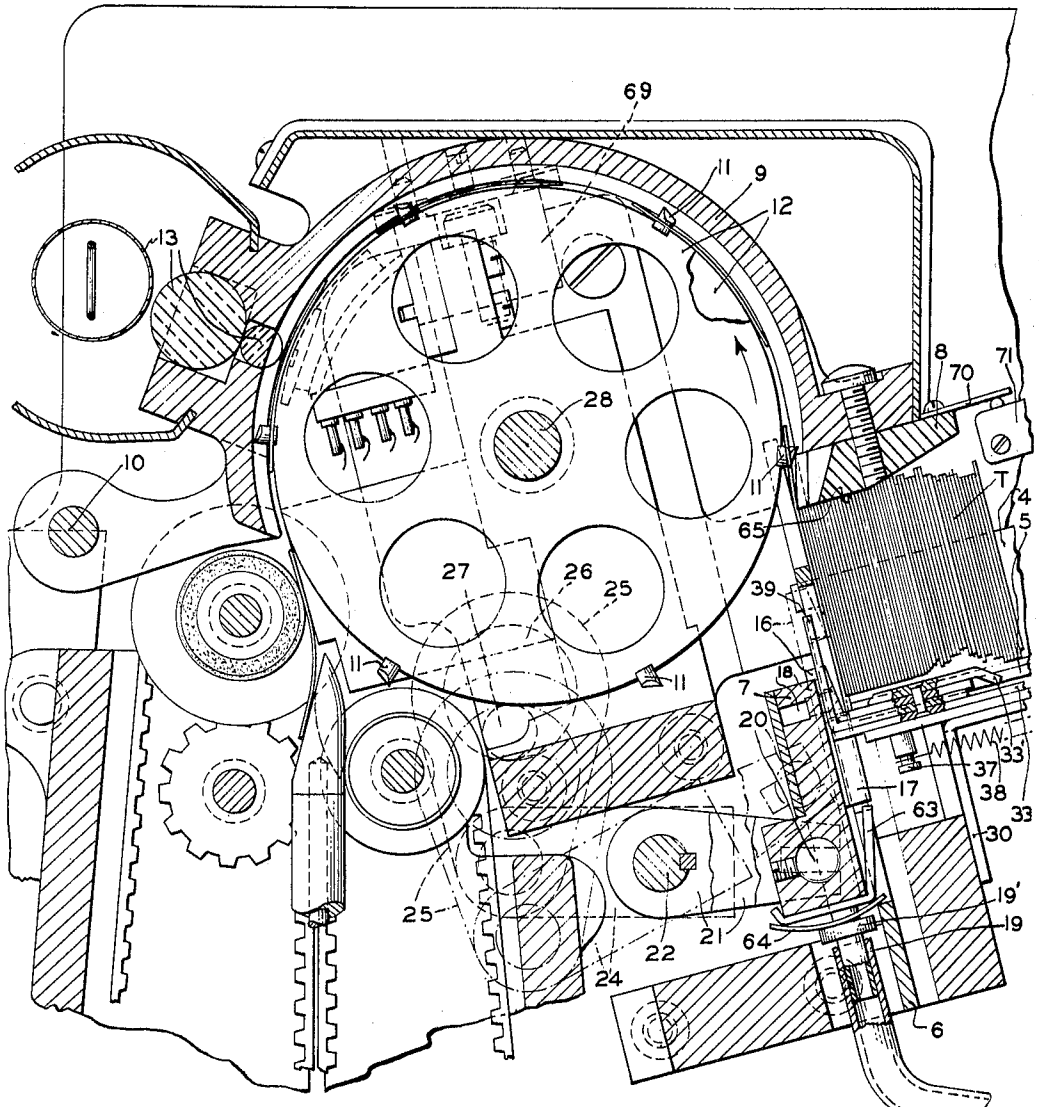
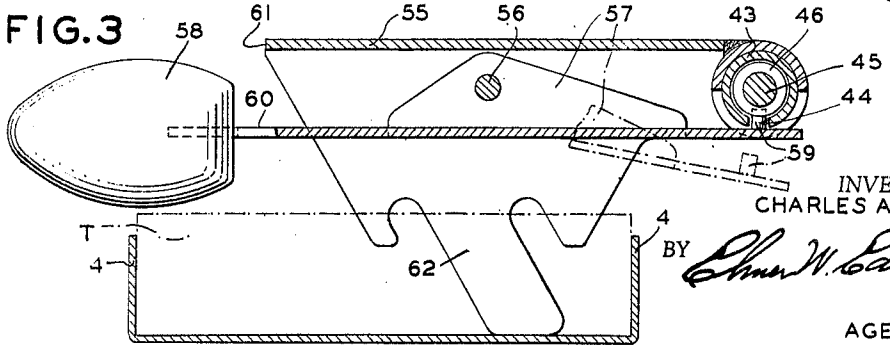


FIG. 3



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FIG. 8

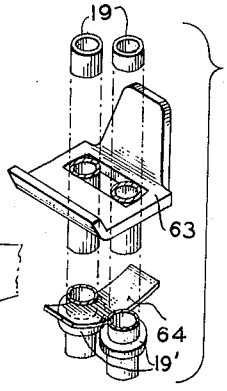


FIG. 6

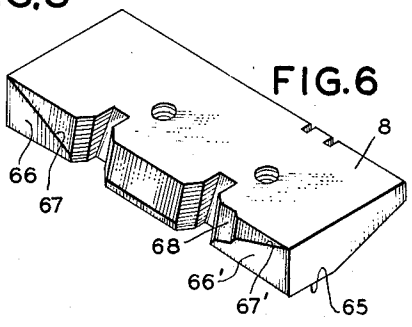
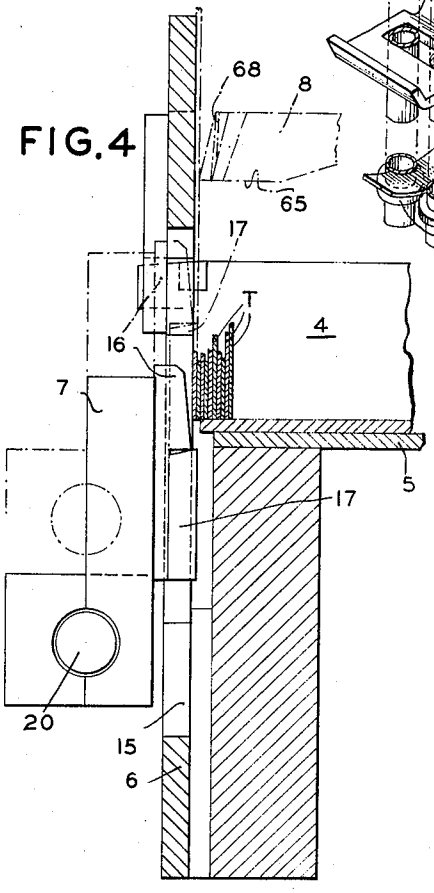


FIG. 4



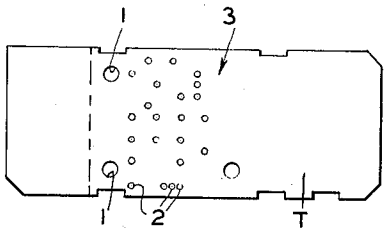
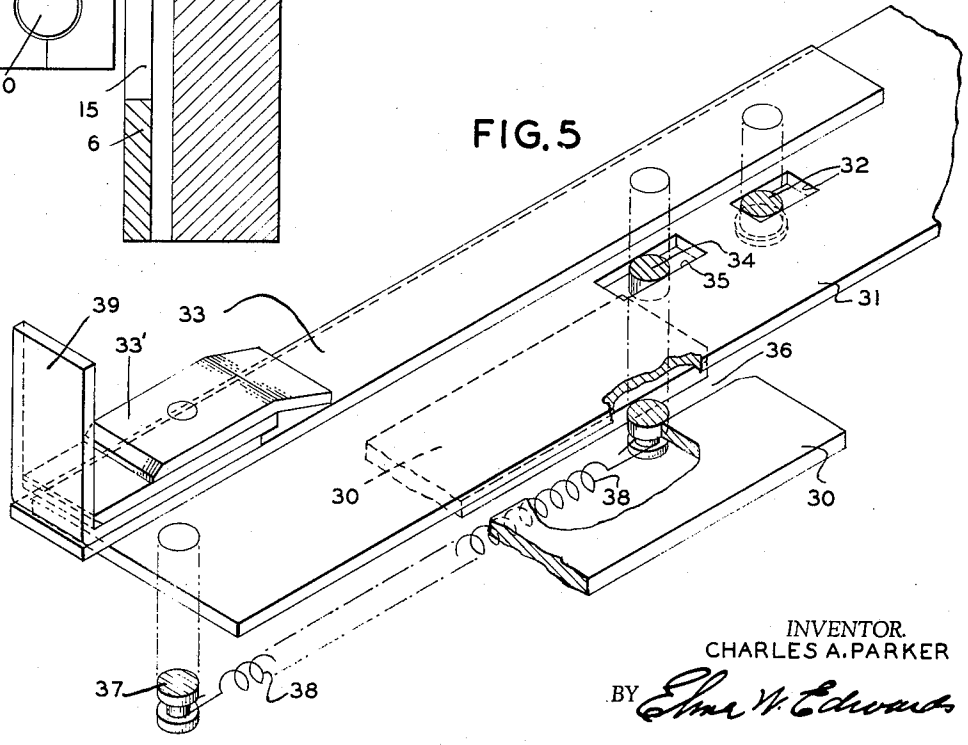


FIG. 7

FIG. 5



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United States Patent Office 3,249,353 Patented May 3, 1966

3,249,353

TAG ALIGNER MEANS

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Filed Aug. 29, 1963, Ser. No. 305,313
15 Claims. (Cl. 271—10)

The present invention relates generally to improvement in devices for aligning the edges of stacked records in the form of perforated merchandise tags, as said tags are advanced toward a feed station, whereby the tags may be sequentially separated and fed by suitable transport means past the usual sensing devices.

As set forth in a copending application No. 83,341 filed January 17, 1961, by Richard M. Elliott et al. for Sheet Feeding Devices and assigned to the A. Kimball Company, the same being the assignee for the present application, the purposes to which the above perforated tags are ideally suited require that the tags retain ability of being accurately processed even when roughly handled. To this end, each tag is provided with two or more locating holes by which the tag may be fed by known transport means acting on internal surfaces not subjected to abuse and also accurately positioned with respect to a device for sensing coded data indications on the tag in positions accurately oriented with respect to the locating holes.

Accordingly, it is a general object of the present invention to provide improved means for aligning a tag relative to the tag separating and to said transport means, during the separating and feeding of the tags one at a time from a stack.

Another object of the invention pertains to power means for effecting such tag alignment independently of any means urging the tag stack toward the position of individual tag engagement by the tag separating and transport devices.

As another object the invention provides means by which succeeding tags may be prealigned within the storage magazine during operations of the tag separating devices in bringing successive tags into engagement with the tag transport devices.

Further, the invention provides tag aligning means including a fixed can member and a means operable by the the tag separating devices for displacing a tag into cooperation therewith in such manner that during repeated tag separating operations a subsequent tag may be displaced incrementally each operation toward its fully aligned condition.

As a further feature such partial displacement toward fully aligned condition is simultaneously effective with respect to a plurality of tags.

Another object of the invention is the provision of means whereby a unitary member in addition to providing for tag alignment serves also as throat guide means for entry of a tag within the tag feeding transport devices.

Further, said unitary member provides means for straightening any warped tags entering the throat opening.

Yet another feature of the invention includes the provision of an on/off setting control, whereby to enable or to disable the operations of the tag aligning means as effected by the said tag separating means.

The above and other features of the invention including novel combinations of parts and details of construction will now be described by reference to the accompanying drawings and pointed out in the claims.

In the drawings:

FIG. 1 is a plan view of a machine embodying the invention, with parts broken away;

FIG. 2 is a left side elevational section in enlarged scale, taken substantially on a line midpoint along the tag separating and transport devices;

FIG. 3 is a detail view in enlarged scale showing parts of the tag stack advancing means of FIG. 1;

FIG. 4 is a detail view in enlarged scale showing parts of the tag separating means of FIG. 2;

FIG. 5 is an enlarged perspective view of the movable member for tag alinging;

FIG. 6 is an enlarged perspective view of a unitary plate member forming a combination tag aligner and entry throat guide to the tag transport devices;

FIG. 7 is an illustration of a typical record tag to be processed; and

FIG. 8 is a perspective view of the jogger operating clip.

As in the manner more fully set forth in the above copending aplication, in general, a magazine is provided for holding a large number of tags, said magazine comprising in the instant case a removable tray for storing and guiding the tags by their edges, said tray being adapted to be supported upon the base structure of the machine in manner inclined sufficiently so that the force of gravity equals substantially the friction tending to retard the movement of the tags along the tray. A tag separating and feeding device is arranged at the lower end of the magazine, the stack of record tags being urged against such device under a constant pressure without regard to the number of records in the tray. Said separating device, to be hereinafter more fully described, comprises a reciprocating slide having shoulders adapted to separate a single tag from the stack. The separating mechanism is adapted to feed each record individually to a position where the locating holes in the record are registered with the path of movement of feed pins which transport the record and which register the coded area thereof with sensing means, the movement of the feed pins being synchronized with the reciprocation of the separating slide so that the feed pins enter the locating holes of the record smoothly without stopipng its movement. The record is fed by the pins past a sensing device and is thereafter stripped from the pins.

Referring now to FIG. 7, there may be seen a record in the form of a perforated merchandise tag T. The tag is provided with a plurality of locating holes **1** which are accurately oriented with respect to one or more fields **2** and **3** of coded data indications. While the illustrated tag is provided with code perforations, it should be understood that forms of recording other than perforations may be used.

As shown in FIGS. 2 and 3, a storage tray **4** having tags T stacked therein is placed upon the base plate **5** of the machine in a manner to decline therewith toward a separating and feeding mechanism which includes a fixed plate **6** suitably slotted to expose a reciprocating separating slide **7** (see also FIG. 4) adapted to separate the lowermost tag from the stack in the magazine. During such separating operation the tag is fed upwardly to enter the transport means, through a slot defined by the fixed plate **6** on the one side and on the other side by a guide block **8** supported upon an arcuate cover plate **9** (FIG. 2) hinged to the machine framing at **10**. Upon entering the transport means a tag is brought into position where the locating holes **1** therein may be engaged by feed pins **11** mounted in the peripheries of a pair of feed wheels **12**. The rotation of the feed wheels and the reciprocation of the separating slide **7** are so timed that each tag is moved along a path where its locating holes **1** are oriented in the path of movement of the feed pins. As in manner set forth in the above copending application each tag is fed in a counterclockwise direction along a circular path, the feed path being defined herein by the peripheries of

the feed wheels 12 and arcuate plate 9. Each tag is fed thereafter past a read station 13 adapted to sense by photoelectric means the code perforations in the tag.

As for the earlier known structure, the tag magazine slopes not only downwardly but also rearwardly so that the tendency for any cards stacked therein is to rest upon the bottom and against the rearward inner edge of the tray 4. The inclined disposition of the magazine is such that the force of gravity tending to cause the tags to slide downwardly along the tray substantially equals the force of friction resisting such movements so that no appreciable changes in the force exerted against the lowermost tag in the stack are caused by a variation in the number of tags in the magazine. To insure that the stack of tags is moved downwardly along the magazine tray for engagement with the tag separating mechanism under substantially constant pressure special means is provided including a pressure plate 62 (FIG. 3) urged to bear against the upper end of the stack of tags, as in the manner hereinafter to be described.

Tag separating mechanism

The tag separating mechanism includes the slide 7 (FIG. 1) adapted to reciprocate heightwise at the lower end of the tag stack in the magazine, the slide being guided for such movement by suitable blocks 14 fixed to the plate 6. The plate 6 is provided with a clearance slot 15 (FIG. 4) which receives a pair of separating knife holders 16 fixed to the slide 7. The holders are provided with a tag picker knife 17 adapted to engage the lower edge of the end tag of the stack resting against the holders 16 so that as the slide 7 is reciprocated heightwise the knife 17 engages the lower edge of the end tag in the stack to separate the tag from the stack and move it heightwise from the magazine. To insure firm engagement of the tag with the knife holders 16, and hence, also alignment of its edge with the knife 17, each holder is provided with openings 18 (FIG. 1) leading from a cavity in the slide 7 which is suitably connected by flexible tubes 19 (FIG. 2) and suitable conduits to a vacuum pump, not shown. The pump may be of any suitable type capable of applying a substantially constant suction. Thus, there is applied to the end tag in the stack a constant suction through the openings 18 to hold the tag firmly in engagement with the holders 16. Heretofore similar suction means have been applied also to that portion of the end tag adjacent its upper edge to urge the tag against the usual end tag block plate means 6 whereby to align the tag with the throat slot for entering the feed transport means leading to the tag reading devices. However, as hereinafter to be described, the improved aligning means of the present invention makes it unnecessary to require the latter said suction devices.

The slide 7 is slotted adjacent its opposite sides and has trunnion pins 20 extending through the slots, the pins being received in the slotted ends of a pair of arms 21 fixed to a shaft 22. The shaft is mounted in suitable bearings in the frame and in portions of a block 23. One end of said shaft has fast thereon an arm 24 having link connection 25 to an eccentric 26 (FIG. 2) integral with a shaft 27 adapted in well known manner for cyclic operations by the electric motor and thus causing the slide 7 to be reciprocated heightwise. Thus, tags are separated continuously one at a time from the stack in the magazine and moved heightwise through the throat slot into a predetermined relationship to the pair of feed wheels 12. Feed wheels 12 are secured to a shaft 28 in such relation that the pins 11 in the two wheels are aligned in cooperating pairs. Shaft 28 for the wheels 12 operates in unison with the shaft 27 for eccentric 26, with the gear ratios being so designed that the feed wheels 12 are rotated the distance between the feed pins 11 during one complete reciprocation of the feed slide 7. A tag is thus moved upwardly by the feed slide 7 along a path converging with the path of the feed pins and in synchronized movement so that the tag and pins are moving at substantially the same speed as they are brought together for engagement.

Tag aligner mechanism

It frequently occurs when placing a batch of tags within the magazine tray 4 that not all of the tags will be fully seated and some of the tags may be skewed angularly in such manner that the feed holes 1 thereof are not in proper parallel alignment for reception with the pairs of pins 11 on the transport wheels 12. Heretofore one manner of obviating such a condition is to provide a cam means which as the tags are advanced by the usual stack advancing means will engage any displaced tags and force the same into aligned condition under the power of the said advancing means. However, the amount of limited force that can reasonably be exerted upon the tags in a magazine stack feeding is related to the required force which can be exerted upon the tags by the tag separating or picker device to extract each tag from the stack for movement into the transport structures for tag reading operations.

The force required by the tag stack advancing means to rearrange any displaced tags by such heretofore known camming means is not only proportionately greater than the limited controlled power requirement for merely advancing the tag stack but acts, by causing a varying power load requirement, to defeat the desired purpose of maintaining a uniform constant force upon the tags as each is brought into successive position for engagement by the picker knife for separating the forward tag and moving it into the tag transport means to the sensing devices.

Also, it is well known that tags when placed in stacked formation have a tendency to adhere to each other, so that heretofore jogger means were provided for vibrating the tag stack to thereby loosen the stack pile and to cause any tags not properly seated to drop into proper seating alignment with the tag supporting structure.

Where, as in the present instance, however, such supporting structure comprises removable trays it may occur that in any warping of a tray, or any foreign substance adhering to the tray or the support means for the tray will act to cause the tray itself and thus the tags therein to be held out of proper aligned relation with the tag separating and feed means of the tag transport devices and such alignment would not therefore necessarily concide with proper alignment of a tag with the tag separating picker knife.

The devices of the instant invention provides novel means whereby the tags are caused to be aligned by operations of the tag separating picker knife in cooperation with a unitary structure providing also throat guide entry of a tag to the transport devices. Such an arrangement attains a more perfect alignment of a tag than heretofore possible and without altering the force as applied throughout operations of the tag advancing means in moving the tag stack.

Mounted at one end by suitable pin and slot means 29 (FIG. 1 to the underside of the support plate 5 for the tag magazine tray 4 and having the opposite end thereof supported upon a suitable bracket 30 (see also FIG. 2) is a slide 31. Upon slide 31 there is secured, by means of an open tolerance pin and slot connection 32 (FIG. 5), a tag jogger member 33, such loose connection permitting the opposite end of said jogger to be lifted, as in the manner hereinafter to be described. To prevent any rotation of jogger 33 on the pin 32 a short spring stud 34 fast thereto extends downwardly through a slot 35 in slide 31 and thence between an open end slot 36 in the fixed bracket 30. At the leftward end of slide 31 there is secured a long spring stud 37, extending downwardly and through the open end slot 36 of bracket 30. A suitable spring 38 is connected between studs 34 and 37 serves to bias the jogger member 33 leftwardly and

downwardly on the slide **30**. A suitable extension **31'** (FIG. 1) of slide **31** provides manual means for setting slide **31** and jogger **33** to the left or to the right. The leftward end of jogger **33** includes a block **33'** integral therewith and an upwardly extending projection **39**. A suitable open end slot **40** in the tray **4** is provided so that projection **39** and the block **33'** may extend upwardly therethrough.

In the contemplated mode of operation a stack of tags may be stored within a number of trays **4**. Slide **31** with jogger **33** and projection **39** are moved to the rightward position and a tray of tags is placed upon the support plate **5**, so that the forward or left-hand tag is now against projection **39** and with a plurality of the forward tags being now over the jogger block **33'**.

It is recalled that the inclined disposition of the magazine is such that the force of gravity tending to cause the tags to slide downwardly along the tray substantially equals the force of friction resisting such movements so that no appreciable changes in the force exerted against the lowermost tag in the stack are caused by a variation in the number of tags in the magazine tray. To insure that the stack of tags is moved downwardly along the tray **4** under a substantially constant pressure the following means are provided.

Tag stack advancing means

With reference to FIG. 1, secured at the opposite ends thereof within respective recessed busings **41**, by means of suitable set pins **42**, is a tube **43** having an elongated slot or opening **44** (FIG. 3) along the bottom surface thereof. Extending longitudinally through said tube is a shaft **45** including thereon a helical or worm tooth cam **46**. Shaft **45** is supported for rotation within suitable left and right end brackets **47**, **48**, said brackets having also supported fast thereon the respective bushings **41**.

The right-hand end of shaft **45** has coupling connection **49** with a disc **50** loosely mounted upon shaft **51** of electric motor M. Disc **50** is held in frictional engagement with a bushing **52** (pinned to motor shaft **51**) by means of a compression spring **53** which may be regulated to control the frictional drive operation of shaft **45** in accordance with an adjustment of the nuts **54** on the threaded end of said motor shaft.

Mounted for slidable movement upon tube **43** and adapted also for a pivoted movement upwardly thereon is a traveling carriage **55**. Intermediately fulcrumed at **56** upon said carriage is a lever **57** upon one end of which is formed a hand knob **58**. The opposite end of lever **57** is provided with an upwardly extending pin **59**, normally adapted by means of the weighted hand knob **58** to be held in raised condition for engagement with the helical cam means **46**.

When it is desired to insert a tray of tags T an operator will first lift knob **58** causing lever **57** to rock clockwise (FIG. 3) about point **56** and disengage pin **59** from cam shaft **46**. As knob **58** is continued to be raised the surface **60** thereof engaging the edge **61** of carriage **55** will now act to lift the carriage upwardly around tube **43**. Extending downwardly from carriage **55** is a plate member **62** which in the lower position of said carriage is adapted for engaging the trailing tag of the stack. With the carriage in raised position the magazine tray **4** with tags T are readily inserted within the machine and thereafter by means of hand knob **58** the carriage **55** is manually adjusted whereby plate **62** is brought against the trailing tag and thereafter is lowered to effect engagement of pin **59** with the cam shaft **46**, which shaft may be either continuously operating or may be started at this time. Thus in the operation of shaft **46** by the friction means **50** carriage **55** is now urged leftwardly and plate **62** will act to maintain a uniform pressure on the tag stack, against the forward stop plate **6**, with the forward tag now being held in position to be raised by the tag separating knife **17** operated by the slide **7** earlier described.

Slide **7** has extending downwardly therefrom a pair of air tube connectors **19'** (FIGS. 2 and 8) to which the vacuum hoses **19** are connected. Mounted upon said connectors is a clip **63** yieldably held against the bottom surface of slide **7** by means of a suitable arched spring member **64** also monuted upon said connectors. The right-hand end of clip **63** extends upwardly and rightwardly and during the above-described upward movement of slide **7** said end engages the underside of jogger **33** at the left end thereof and rocks said jogger upwardly about the loose pivot connection **32**. Thus it will be apparent that any tags T positioned above the jogger block **33'** will be raised therewith until stopped by engagement of certain of said tags with the under surface **65** (FIG. 2) of the guide plate **8**. Said surface is constructed to be parallel with respect to the tag separating knife **17**, so that during the above operations any tags inadvertently placed within the tray **4** in a skewed condition will upon engagement with said surface **65** be adjusted into a parallel aligned condition with respect to the tag separating knife **17**, whereby to be properly picked up by said tag separating knife in subsequent operations thereof. Yieldable spring means **64** above described serves to permit a slight overstroking of the operating plate **7** after clip **63** is halted by the engagement of any tags with guide plate **8**. It will be noted that the rightward end of surface **65** slopes upwardly. Thus any tags of the stack which may perchance be misaligned sufficiently will engage with said slope and during each instant tag ejection operation, since the tags are advanced each time following a tag ejection, the operations of the jogger block **33'** therewith will repeatedly bring such tags against the rescending slope of the cam surface. Therefore, the tags are gradually in step-by-step manner brought into edgewise alignment by the jogger devices as operated by the tag separating means; in lieu of the tags being forced downwardly by engaging said cam surface under impetus of the tag advancing means, as for the heretofore known devices.

Not only is it important that each tag entering the tag transfer means be properly aligned with respect to the separating knife **17** and so properly brought into alignment for receiving the transport pins **11**, but also in order to minimize any jamming at the throat opening a pair of corresponding cam face areas **66**, **66'** (FIG. 6) are provided upon the throat face of said guide plate **8**. Said cam areas each extend inwardly from an opposite lateral edge of the plate, with each converging along the tag entry edge thereof and each converging with the throat guide face along respective bias lines **67**, **67'** extending from a point on the lateral edges of said plate to respective points on the tag entry edge therof. While any tags which may be curled at the ends tend to be straightened somewhat by the compression induced by the stack feed it has been found that the above arrangement of the tag entry guide means will act to further align such tags and makes it possible to receive tags not otherwise capable of entering the throat means.

It is customary in many cases to provide tags with a tear off portion by line perforations which extend only partially through the thickness of a tag. Such partial perforations by extruding the tags will unless proper means are provided act to cause a jamming at the throat opening. To prevent this condition the throat face of plate **8** is provided with a recessed portion **68** therein for receiving such tag extrusions.

As earlier set forth guide plate **8** is mounted upon an arcuate plate **9** (FIG. 2) pivoted to hinge rod **10** and which provides for guide means in the tag transport operations past the sensing means **13**. To maintain arcuate plate **9** and guide plate **8** in normal closed or down position a magnetic latch means **69** is provided which magnetic means is of sufficient strength to overcome the yieldable spring means **64** of the jogger devices in effecting engagement of the tags with guide plate **8**. However, should a jam occur in the tag separating or transport operations such combined force with the spring means **64**

will be sufficient to overcome said magnetic latch 69 so that plate 9 and guide plate 8 will be rocked upwardly. Upon upward movement of plate 8 an arm 70 thereon will release a switch member 71 to open the circuit for motor M and stop the machine operations.

To disable the above operations of the jogger means by the tag separating devices and to displace the tag stack free of the guide plate 8 the tag stack may be moved rightwardly at any time by merely employing a rightward operation to the manual lever 31' (FIG. 1).

It is obvious that because of the time that would be lost in rectifying a tag jam any inadvertent tag jamming during an operation will act to reduce considerably the total number of tags that might otherwise be processed. To be practical therefore devices of the above character must be capable of processing a great number of tags successively with a minimum amount of stoppage incident to tag jamming.

Applicant's novel devices which utilize the tag separating means for aligning subsequent tags during each tag separating operation provides for maintaining a uniform pressure upon the tag stack by the slack advancing means, and by effecting an alignment of a tag with the guide blank forming part of the throat means for subsequently receiving said tag in the transport means, and further in conforming said guide blank to effect the correction of any tags that may be in a warped condition has in actual practice been found to greatly reduce the incident of tag jamming.

While there have been shown and pointed out the fundamental novel features of the invention as applied to a preferred embodiment thereof, it will be understood that various omissions, substitutions, and changes in the form and details of the devices illustrated and in their operations may be made by those skilled in the art, without departing from the spirit as indicated by the scope of the claims appended hereto.

I claim:

1. In a device for separating sheets individually from a stack; the combination comprising
- a magazine for supporting a stack of said sheets for bodily movement toward one end of the magazine;
- means for advancing the sheet stack toward said end;
- a sheet ejecting member engageable with the trailing edge of the end sheet in the stack for moving said sheet edgewise from the magazine;
- guide means including a surface in parallel relation with said sheet ejecting member and engageable by the leading edge of a succeeding sheet; and
- jogging means operable by said sheet ejecting member in a direction of sheet ejection for displacing said succeeding sheet to bring the leading edge thereof into engagement with said surface whereby to align the said succeeding sheet with respect to said sheet ejecting member.

2. The invention according to claim 1 said jogging means including an elongated member extending along the sheet stack and engageable near one end with a plurality of said sheets;
- a support means for said elongated member;
- means securing said elongated member to said support means in manner to permit reciprocating movement of the sheet engaging end of said member toward and away from said support means; and
- yieldable means operable with the first stated operating member and engageable with said elongated member to effect a reciprocatory operation thereof.

3. The invention according to claim 2 and wherein said support means is slidably mounted for manual operations whereby to displace said elongated member therewith for enabling and disabling operations of the said jogging means.

4. The invention according to claim 1 and wherein the said means for advancing the sheet stack includes
- a rotatable shaft having a worm drive along a substantial length thereof;
- frictional drive means for yieldably rotating said shaft;
- a tubular member encasing said shaft and having therein a slotted opening substantially in accordance with the length of said worm drive;
- a shiftable carriage mounted for slidable movement along said tubular member and adapted for engagement with said sheet stack;
- a manually operable control member intermediately pivoted upon said carriage;
- means on said control member adapted for engagement with said worm drive for effecting a lateral displacement of said carriage, whereby to advance the said stack of sheets in uniform manner toward one end of said magazine.

5. The invention according to claim 4 said manual control means being adapted for operation in a given plane for engaging or releasing said control member from said worm drive and in a plane transverse to said first plane whereby to effect manual lateral displacement of the said carriage.

6. The invention according to claim 5 and including means for holding said control member in engagement with said worm drive under control of gravity.

7. In a mechanism for successively feeding record sheets edgewise from a stack thereof; the combination comprising
- a magazine for supporting said stack of sheets for bodily movement toward one end of the magazine;
- means for advancing the sheet stack toward said end;
- a sheet separating member engageable with the trailing edge of the end sheet of the stack for moving said sheet edgewise free of an adjacent sheet;
- aligner means adapted for engagement by the leading edge of said adjacent sheet;
- a sheet jogging member movable in sheet ejecting direction by the sheet separating member and engageable with the trailing edge of said adjacent sheet for displacing the leading edge of said sheet into engagement with said aligner means whereby to bring the trailing edge of said sheet into an aligned condition with respect to the said separating member.

8. In a device for feeding record sheets seriatim from a stack: the combination of
- a magazine including a removable tray for stacking said sheets edgewise therein;
- means for advancing said stack toward an open end of said tray;
- a reciprocating member including a picker knife engageable with one edge of an end sheet as emitted from said tray and adapted for moving said sheet edgewise free of an adjacent sheet;
- a sheet jogging member reciprocated by said first named reciprocating member in a timed relation therewith and having movement of lesser extent thereto; and
- aligner means cooperable with a plurality of sheets adjacent subsequent to the said end sheet, said reciprocation of the said jogging member serving near the end of an active stroke of the said first named reciprocating member to displace said plurality of sheets for selective engagement with said aligner means to bring any misaligned sheet thereof into parallel alignment with respect to the said picker knife.

9. The invention according to claim 8, said aligner means including a plate having a cam surface for progressively displacing a sheet along a plane normal to the direction of the sheet stack movement.

10. In a mechanism for feeding sheets edgewise seriatim from an advancing stack of sheets; the combination coming
- transport means adapted for receiving individual sheets fed from the feeding means;

a guide means having a guide face comprising one side of a throat opening to said transport means;

reciprocating means engaging one edge of an end sheet for moving said sheet into said throat opening for engagement with said transport means;

said guide means including a surface area engageable by an edge of a succeeding sheet for aligning said sheet edge in parallel with said throat opening; and

wherein the said guide face of said guide means includes a pair of corresponding cam face areas each one extending inwardly from an opposite lateral edge of said guide means, each one converging along the sheet entry edge thereof and each one converging with said guide face along respective bias lines extending from a given point of the corresponding lateral edges to related respective points on the said entry edge, said cam area cooperable with a moving sheet for aligning the sheet in accordance with said guide face.

11. The invention according to claim **10**: and including a recessed portion along said guide face for receiving embossed portions of a tag being advanced past said throat opening.

12. The invention according to claim **10** and wherein the said transport means includes an arcuate plate defining a passage from said guide means, said arcuate plate being pivotally hinged for rocking movement at a point remote from said guide means; and

wherein said guide means is fast upon the said arcuate plate for movement therewith incident to any sheet jamming occurring during sheet transport operations.

13. The invention according to claim **12** and including a magnetic means for releasably holding said arcuate plate in a given position by a predetermined force.

14. In an apparatus for feeding sheets edgewise seriatim from an advancing stack of sheets; the combination comprising

transport means adapted for receiving individual sheets fed from the feeding means;

a member defining a throat opening to said transport means;

said transport means including an arcuate plate defining a passage from said throat opening;

said arcuate being pivotally hinged for rocking movement at a point remote from said throat opening; and wherein

said member is fast upon said arcuate plate for movement therewith incident to any indvertent jamming of a sheet in entering said throat opening.

15. In an apparatus for feeding sheets edgewise seriatim from a stack pile; in combination

means for receiving individual sheets from the feeding means;

a guide member forming along one face thereof a throat opening including an entry edge to said receiving means;

a pair of corresponding cam areas on said face, each area receding inwardly from an opposite lateral edge of said guide member and converging toward said face along said edge and each area converging with said face along respective bias lines extending from a given point of the corresponding lateral edges to related respective points on the said entry edge; and

each of said cam areas adapted for engagement by a moving sheet to the purpose of aligning said sheet with the said throat opening.

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